Listing of Claims

1-15. (Canceled)

16. (Currently Amended) A display device, comprising:

an optical waveguide, comprising at least one light guiding core, for receiving and guiding input light;

a first set of electrodes positioned over the optical waveguide;

a liquid crystal holographic optical element formed over the first set of electrodes; and

a second set of electrodes positioned over the liquid crystal holographic optical element, wherein the first and second sets of electrodes define pixel or sub-pixel areas of the display device, each pixel or sub-pixel area including a pair of electrodes formed from at least one electrode from the first set and at least one electrode from the second set, the pair of electrodes adapted to selectively apply a voltage across a corresponding pixel or sub-pixel area of the liquid crystal holographic optical element;

wherein the liquid crystal holographic optical element is selectively adjustable based on whether said voltage is applied by the pair of electrodes, wherein light is transmitted by said corresponding pixel or sub-pixel area to appear in a displayed image when said voltage is applied by the pair of electrodes and wherein light is ~~not~~ transmitted by said corresponding pixel or sub-pixel area in a direction which causes said light to not appear in the displayed image when said voltage is not applied by the pair of electrodes, and

wherein the pair of electrodes applies said voltage a number of times over a predetermined period and frequency, said number of times equal to a gradation level of light to be transmitted by the corresponding pixel or sub-pixel area.

17 (Canceled)

18. (Canceled)

19. (Canceled)

20. (Currently Amended) The device of claim 16 ~~19~~, wherein the first and second sets of electrodes are adapted to selectively apply a voltage across one or more sub-pixel areas of the liquid crystal holographic optical element.

21. (Previously Presented) The device of claim 20, wherein the sub-pixel areas comprise red, green and blue sub-pixel areas.

22. (Currently Amended) The device of claim 21, wherein~~, in the at least one other state,~~ the liquid crystal holographic optical element comprises first, second and third holograms in each of the red, green and blue sub-pixel areas that are adapted to diffract red, green and blue light, respectively.

23. (Canceled)

24. (Canceled)

25. (Currently Amended) The device of claim 16, wherein a percentage of the input light that enters a selected area of the liquid crystal holographic optical element is continuously variable between substantially 0 and substantially 100% based on a magnitude of said ~~the~~ voltage applied across the selected area of the liquid crystal holographic optical element.

26. (Previously Presented) The device of claim 16, further comprising a light source for generating the input light.

27. (Previously Presented) The device of claim 16, wherein the light guiding core has an area that is substantially the same as an effective display area of the display device.

28. (Currently Amended) The device of claim 16, wherein the optical waveguide comprises a plurality of light guiding cores, each core corresponding to a respective one of the pixel or sub-pixel areas disposed in a column or row direction of the display device.

29. (Canceled)

30. (Currently Amended) A display device, comprising:

at least one cladding layer;

a core layer on each cladding layer for receiving input light;

a first set of electrodes on the core layer;

a liquid crystal holographic optical element on the first set of electrodes;

a second set of electrodes on the liquid crystal holographic optical element,

wherein the first and second sets of electrodes define pixel or sub-pixel areas of the display device, each pixel or sub-pixel area including a pair of electrodes formed from at least one electrode from the first set and at least one electrode from the second set, the pair of electrodes adapted to selectively apply a voltage across a corresponding pixel or sub-pixel area of the liquid crystal holographic optical element;

wherein the liquid crystal holographic optical element is selectively adjustable based on whether said voltage is applied by the pair of electrodes, wherein light is transmitted by said corresponding pixel or sub-pixel area to appear in a displayed image when said voltage is applied by the pair of electrodes and wherein light is ~~not~~ transmitted by said corresponding pixel or sub-pixel area in a direction which causes said light to not appear in the displayed image when said voltage is not applied by the pair of electrodes, and

wherein the pair of electrodes applies said voltage a number of times over a predetermined period and frequency, said number of times equal to a gradation level of light to be transmitted by the corresponding pixel or sub-pixel area.

31. (Previously Presented) The device of claim 30, wherein an index of refraction of the liquid crystal holographic optical element is substantially the same as an index of refraction of a monomer included with the liquid crystal holographic optical element when said voltage is applied by the pair of electrodes.

32. (Canceled)

33 (Canceled)

34. (Canceled)

35. (Currently Amended) The device of claim 30 ~~34~~, wherein the first and second sets of electrodes are adapted to selectively apply a voltage across one or more sub-pixel areas of the liquid crystal holographic optical element.

36. (Previously Presented) The device of claim 35, wherein the sub-pixel areas comprise red, green and blue sub-pixel areas.

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Previously Presented) The device of claim 30, wherein a percentage of the input light that enters a selected area of the liquid crystal holographic optical element is continuously variable between substantially 0 and substantially 100% based on a magnitude of the voltage applied across the selected area of the liquid crystal holographic optical element.

41. (Previously Presented) The device of claim 30, further comprising a light source for generating the input light.

42. (Previously Presented) The device of claim 30, wherein the core layer has an area that is substantially the same as an effective display area of the display device.

43. (Canceled)

44. (Canceled)